

Theater Missile Defense and National Security Strategy

Peppino A. DeBiaso

IN THE INTERNATIONAL SECURITY environment emerging from the post-Cold War period, any conflict in which the United States becomes engaged could carry the risk of theater ballistic missile (TBM) attack, possibly armed with nuclear, biological or chemical (NBC) warheads. Possession of these weapons would allow aggressors to do what they could not do before—hold at risk vital assets such as capitals, population centers, major ports, air bases and large concentrations of forces with only a small number of weapons and thereby hinder the US role in international security affairs by affecting its freedom of action in future crises and wars. The risks to US security posed by the growing proliferation of TBMs have focused increased attention on the requirements for Theater Missile Defense (TMD). This article examines the implications of those risks for defense planning and describes the development of US TMD policies, capabilities and programs within the broader national security strategy for countering the threat or use of ballistic missiles and weapons of mass destruction.

Evolving Regional Security Challenges

Since the early 1990s, the international security environment has undergone rapid and unpredictable change. The positive transformation of the East-West relations resulting from the dissolution of the Soviet Union and the end of the Cold War has dramatically reduced the risk of conventional or nuclear war with Russia. At the same time, regional conflicts have intensified. The collapse of the Soviet Union and the “discipline” imposed during the Cold War on latent regional tensions have given way to power vacuums within those areas formerly under Soviet control or influence. New regional powers have emerged, filling these power voids. In many instances, transformed geopolitical landscape has rekindled or unleashed hegemonic ambitions and tensions based on nationalistic, religious and ethnic fac-

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tors, contributing to greater regional instability and wars.

The rise of regional hostilities and conflicts has been accompanied by proliferating ballistic missiles and weapons of mass destruction. Ballistic missiles have become attractive weapons for hostile nations and groups because they serve as tickets to power, influence and coercion in regional affairs and regional wars. Their long range, short time of flight, relative low cost and ability to carry a variety of warheads offer unique political and military advantages over other weapons. Today over 20 nations have TBMs and more than 20 nations have or are developing NBC weapons.¹ Many of the same nations that are developing or acquiring TBMs are also pursuing NBC weapons. Together, these weapons pose serious regional threats. However, beyond this decade, the military risks associated with these developments will likely be exacerbated by the continuing spread of advanced weapon technologies that contribute to improved ballistic missiles. The trend is toward systems of increased range, lethality and sophistication.

North Korea's development of two new longer-range TBMs—the Taepo Dong I and II, with estimated ranges greater than several thousand kilometers—and Iran's recent efforts to produce ballistic missiles of greater than 1,000-kilometer range are typical of the trend.² Worse, TBM use in regional conflicts is becoming a convention of mod-

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ern war. Ballistic missiles have been used in six conflicts since 1980. The Iran-Iraq "War of the Cities," Libyan attacks on the Italian island of Lampedusa, the war in Afghanistan, the Iranian attacks against internal dissident camps, the Persian Gulf War and the civil war in Yemen all demonstrated the capability of ballistic missiles to threaten the full range of political and military targets.³

The implications of this emerging security environment for US defense planning are clear. The proliferation of ballistic missiles, on the one hand, and the rise of regional conflicts, on the other, present new challenges to international stability and the vital interests of the United States and its allies. The threat of global warfare or large-scale attack on the United States has declined. But we have an increased requirement to prepare for regional wars that may arise suddenly and involve adversaries armed with sophisticated conventional and unconventional weaponry. The proliferation of ballistic missiles as the means for delivering conventional or NBC warheads increases the dangers associated with these potential conflicts.

National Security Strategy for Addressing Proliferation

In response to proliferation, the United States has established a broad strategy based on three major and mutually supportive components: preventing and reducing the threat, deterring the threat and defending against the threat.⁴ US TMD policy reflects each of these components.

The first component or line of defense is to prevent or reduce the spread of advanced weapons and missile technology through a range of arms-control and nonproliferation treaties, export controls, sanctions against violators and threat-reduction efforts such as the Cooperative Threat Reduction program. As part of an appropriate mix of military capabilities to deal with proliferation threats, TMD complements and underwrites preventive efforts in support of nonproliferation goals. The mix signals US re-

solve to address both political and military implications of the proliferating ballistic missiles and NBC weapons and demonstrates our refusal to be intimidated by these weapons. The US posture helps strengthen international norms against proliferation. By limiting or denying the political and military value of ballistic missiles, TMDs should also reduce incentives for nations to develop or acquire such arms. But the United States does not expect preventive measures to be successful in all cases.

When prevention fails to keep these weapons out of the hands of aggressive nations or factions, the second line of defense is to deter their use by maintaining strong conventional and nuclear forces. Central to deterrence is the principle that potential aggressors must be convinced that the risks of aggression far outweigh any possible gains. The United States can affect that calculation in the minds of a hostile leadership by increasing the risks involved in aggression, by denying potential gains or by doing both. For example, the threat of retaliation would increase the potential risks to an aggressor, while defenses such as TMD would deny potential gains. To affect either side of the deterrence equation, a mix of offensive and defensive military capabilities is required.

The simple threat of retaliation that worked during the Cold War may not be enough to deter a terrorist state or aggressive regime from using NBC weapons. Those who possess NBC weapons now may be more likely to use them. Hostile or rogue regimes may threaten to use these weapons for blackmail or as a relatively inexpensive way to deter the United States from intervening with its conventional military superiority and thereby gain a decisive edge in a regional war.

A capability to counter ballistic missiles carrying NBC weapons by destroying them in flight would significantly reduce the political and military payoff of using them. Specifically, defenses would affect the enemy's calculation of the risks and benefits of aggression by denying him, in his own mind, that which he seeks to gain, whether through the use of threatened use of ballistic missile-delivered weapons of mass destruction. Thwarting both the coercive and warfighting potential of an adversary's ballistic missile arsenal would strengthen deterrence and enhance regional stability.

Finally, because these first two components may not prove fully successful, the United States should be prepared to defend against the ballistic missile threat. It is here that TMD plays its preeminent role in defeating potential ballistic missile attacks while



Soldiers comb through the remains of US barracks at the Dhahran, Saudi Arabia, POD after it was struck by a Scud missile on 25 February 1991. The total of dead and wounded from this attack was 118.

Theater military targets vulnerable to missile attack include sea and air points of debarkation (PODs) and other large, fixed logistics nodes. In the Gulf War, two sea PODs received over 95 percent of the sea cargo transporting forces and equipment, while five air PODs handled nearly 80 percent of air cargo.

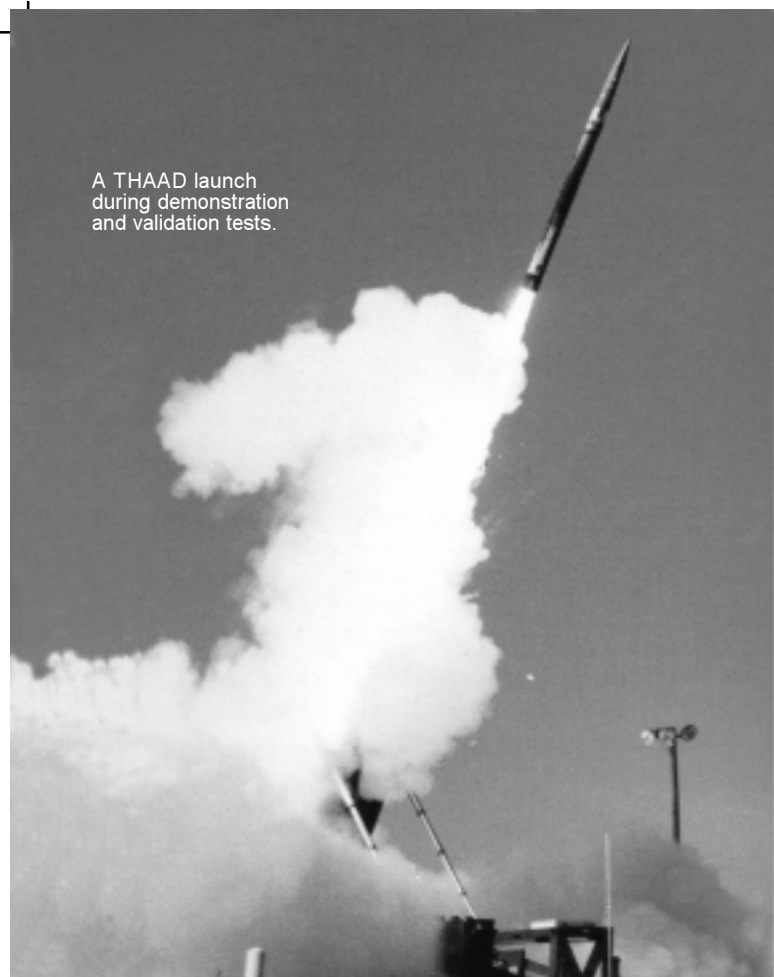
providing protection to US forces as well as to those of its allies and friends. The Gulf War underscored the manner in which TBM warfare could complicate US defense planning by restricting its freedom of action to protect its interests and uphold its security commitments. It also illustrated the relationship between TMD and the successful management of future regional crises and wars. Several of the more significant lessons here include the following four considerations.

First, TMD provides a means to counter an enemy's attempts to blackmail or coerce coalition partners or nations providing host-nation military support. Thus, even if a conflict is hundreds or thousands of miles away from the capitals of US allies or coalition partners, those capitals may be held at risk by belligerent states with TBMs. The outcome of the Gulf War could have been significantly altered had Iraq possessed longer-range TBMs capable of threatening London, Paris or Rome. Without a capability to defeat these attacks, ballistic missiles will give regional aggressors the means to undermine the cohesiveness, determination and political stability of a coalition or alliance.

Second, it may not be possible to deter some TBM attacks. For example, the use of overwhelming offensive forces did not deter Iraq's SCUD attacks on US and coalition forces or population centers in Saudi Arabia and Israel. The attacks on Israel were probably intended to trigger a widening of the conflict. Instead of being deterred by the possibility of Israeli retaliation against SCUD attacks, Iraq sought to upset the political dynamics of the US-led coalition and thus influence the outcome of the war. Deploying US Patriot TMD systems to Israel following the first Iraqi SCUD attacks on Tel Aviv had a stabilizing effect. Providing TMD to an American friend—and, importantly in this case, a nonbelligerent—is tangible evidence of our continued commitment to assuring the security of friends, allies and coalition partners.

Third, Iraq demonstrated that ballistic missiles armed with conventional warheads are not only effective as terror weapons but also play a destabilizing role that extends to military planning. The SCUD attacks on civilian population centers and the resulting political imperative for a deterrent response affected coalition military strategy and necessarily

A THAAD launch during demonstration and validation tests.



US Army

Completely new, longer-range ground- and sea-based TMD systems—the upper-tier interceptors—are to be fielded during the middle of the next decade. The United States is developing the Army's Theater High Altitude Area Defense (THAAD) system and the Navy's Theater Wide (NTW) system to intercept ballistic missiles with ranges up to 3,500 kilometers. . . . An upper-tier system's ability to engage TBMs at long range affords the opportunity for multiple intercepts.

constrained US options for employing some allied forces in other critical missions. This was evident in the more than 3,000 "SCUD-hunting" sorties conducted by coalition air forces—a mission considered less important than most others at the beginning of the conflict. Protecting noncombatants and population centers will be increasingly vital to the US leadership role in the world as ballistic missiles proliferate and aggressors attempt to derail the formation of defensive coalitions through the threat of missile attacks. In future regional conflicts, TMD should reduce pressure on US military and political leaders to alter campaign plans because of the threat or actual use of ballistic missiles. TMD thereby minimizes the risk of disrupting such carefully laid plans and losing the initiative in battle.

Last, the war underscored the need for a mix of both offensive and defensive forces on the modern battlefield. The United States experienced considerable difficulty in locating and destroying mobile TBM systems. Despite the fact that the coalition had total air superiority during the Gulf War, it was unable to effectively locate Iraq's mobile launchers and halt SCUD attacks.⁵

TMD in Military Strategy

The preceding discussion examined the relationship between TMD and the broader national security strategy for addressing threats to US interests posed by ballistic missiles. These weapons also hold considerable operational significance for US military strategy for waging theater war across the spectrum of conflict, which focuses on threats by key regions throughout the world. The most recent review of US military strategy, the Quadrennial Defense Review (QDR), concluded that the United States should possess forces capable of fighting and winning *two major theater wars* nearly simultaneously, maintaining *overseas presence* and responding to a variety of *smaller-scale contingencies*.⁶ Furthermore, recognizing US experience since the end of the Cold War, it stated that US forces must be prepared to conduct all these operations in the face of NBC-armed TBMs. US defense planning envisions a crucial role for TMD in regional strategy.

Major theater wars. The ability to respond to and defeat aggression in two nearly simultaneous major regional wars will depend on the ability of the United States to move its forces rapidly within and between theaters and to sustain them once deployed. TMDs resident with power-projection and forward-deployed forces would provide protection, on short notice, of ports and airfields for arriving forces and their reinforcements. In major regional wars, TBMs will be available for use by an aggressor in the early stages of conflict to disrupt US operations and logistics. Theater military targets vulnerable to missile attack include sea and air points of debarkation (PODs) and other large, fixed logistics nodes. In the Gulf War, two sea PODs received over 95 percent of the sea cargo transporting forces and equipment, while five air PODs handled nearly 80 percent of air cargo.⁷ In this operational environment, TMD's role is to mitigate enemy ballistic missile threats to US forces flowing into a region to assist a threatened nation or stop an enemy invasion. Additionally, defenses may also serve to de-escalate or terminate a major regional war by deterring the employment of TBMs. The presence of missile defenses discourages potential adversaries

from threatening TBM attacks against the United States and its coalition partners.

Overseas presence. US strategy also emphasizes the importance of presence abroad, albeit at reduced levels. Presence can take several forms. Stationing forces in selected forward bases is perhaps the most tangible demonstration of US commitment in key areas. US TMDs, in combination with those that allies and coalition partners might deploy, would protect us and them in maintaining a forward-deployed military presence in those areas threatened by TBMs. It would also strengthen US leadership and shape the international environment to reduce the chances that such threats will develop in the first place.

Smaller-scale contingency operations. The need to respond to a wide range of smaller regional contingencies and crises, and to do so on very short notice, is perhaps the newest element of US military strategy identified in the QDR. The smaller-scale contingencies we face are many and varied, including differences in the nature of the threat and distance from the United States. In smaller-scale contingencies, just as in the case of major theater wars, the US military must be prepared to conduct operations against adversaries who use asymmetric means, such as NBC weapons, to circumvent US strengths and exploit its vulnerabilities.⁸ In particular, the United States needs to anticipate asymmetric threats and strategies that threaten its forces or those of its security partners. To draw from the Gulf War again, Iraq employed an asymmetric strategy when it sought to exploit potential weaknesses in coalition defenses by launching ballistic missile strikes against targets in Saudi Arabia and Israel. The availability of TMD provided an alternative to Israeli retaliation, which could have ruptured the coalition. The continuing spread of ballistic missile technology suggests that potential regional aggressors plan to exploit this vulnerability. Effective TMD provides a military response to mitigate vulnerability to an adversary's use of asymmetric means.

Theater Missile Defense Capabilities and Programs

The specific TMD capabilities and programs that flow from the US defense strategy for waging major regional wars have led to a "family of systems" approach rather than reliance on a single weapon system.⁹ Two primary considerations drive the military-operational capabilities that underpin US TMD programs: the diversity of the ballistic missile threat and the TMD mission. First, the TBM threat is varied in terms of range, warheads/payloads, missile

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technology, quantity and penetration aids. No single weapon system can effectively deal with the full range of TBM threats. Second, against such diverse threats, TMD is expected to perform multiple missions to protect US and coalition forces and the population and territory of coalition partners or host nations. These missions may take place with a slow, deliberate buildup, as in the Gulf War when TMD systems were transported initially by a combination of ship and aircraft. Or hostilities may erupt with little or no warning, and missile defenses will be limited to whatever pre-positioned or forward-deployed forces are immediately available. Some missions will require protecting debarkation ports and coastal airfields during a forced-entry insertion of land-based TMD assets into a theater where neither airlift or sealift would be possible and defenses may be provided only from the sea. The United States has concluded that a mixture of deployable land- and sea-based TMD capabilities to accommodate a variety of threat, combat and geographic scenarios will best perform the full range of missions.

To provide the required military-operational capabilities for TMD, the United States is acquiring a layered or tiered defensive architecture. Effective TMD requires "defense in depth," which requires multiple tiers of protection. The optimal approach combines lower-tier interceptors that defend limited areas by engaging shorter-range TBMs within the atmosphere and upper-tier systems operating above the atmosphere to protect larger areas against longer-range missiles. Thus, the United States has defined a set of programs within this framework that first builds on the existing air and TMD infrastructure. Land- and sea-based lower-tier systems deploy as soon as possible to defend troops and critical fixed civilian and military assets against shorter-range ballistic missiles—those with ranges of less than 1,000 kilometers, which are widely deployed today. Two primary lower-tier programs are in develop-

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ment: the ground-based Patriot Advanced Capability-3 (PAC-3)—based on, but a substantial improvement over, the PAC-2 system; and the sea-based Navy Area Theater Ballistic Missile Defense system, which will be deployed on existing Aegis cruisers and destroyers. The United States should begin fielding these programs in 2000 to strengthen in the shortest time possible our defense against existing shorter-range missiles.

Also being pursued are completely new, longer-range ground- and sea-based TMD systems—the upper-tier interceptors—to be fielded during the middle of the next decade. The United States is developing the Army's Theater High Altitude Area Defense (THAAD) system and the Navy's Theater Wide (NTW) system to intercept ballistic missiles with ranges up to 3,500 kilometers. Upper-tier TMD provides four essential benefits not offered by lower-tier systems. First, upper-tier systems are necessary to defeat emerging longer-range TBMs. These weapons reenter the atmosphere at speeds exceeding the performance capabilities of lower-tier interceptors. Second, an upper-tier system's ability to engage TBMs at long range affords the opportunity for multiple intercepts (allowing the interceptor system to "shoot-look-shoot.") Third, upper-tier interceptors provide the capability to en-

gage TBMs at higher altitudes and at greater distances from the defended area. This standoff capability mitigates or negates the effects of chemical or biological weapons on defended assets. Last, by intercepting TBMs at longer distances from the target, upper-tier systems cover a larger defended area, a vital capability for protecting the cities, populations and territory of coalition partners and host nations supporting the United States.

Finally, the United States is continuing to explore longer-term concepts such as the Air Force's Airborne Laser for destroying TBMs in the "boost" phase of flight when they are relatively large, slow and vulnerable targets. Intercepting missiles in the boost phase increases the probability that their warheads will fall short of the intended target. Boost-phase intercept by airborne systems adds another layer of defense, further limits the numbers of weapons that ground- or sea-based defenses must defeat and increases the overall level of protection. Intercepting missiles in the boost phase would also enhance deterrence by confronting an adversary with the prospect that debris from the missile warhead would descend on its own territory. In this instance, the incentive for restraint could be particularly compelling if the warhead were a weapon of mass destruction.

In the new security environment, any conflict in which the United States becomes engaged could carry the risk of TBM attacks. Those who possess such weapons will increasingly cast a long shadow over US national security and foreign policy. In future crises or wars, hostile states may be able to threaten or use TBMs, possibly armed with warheads of mass destruction. Such attempts to deter or otherwise constrain US freedom of action raise the potential cost and risks of military intervention and undermine the very foundation of our regional security strategies. TMD will ensure the United States possesses the capabilities required to effectively meet the military risks and security challenges of the 21st century. **MR**

NOTES

1. US Secretary of Defense, *Annual Report to the President and Congress* (Washington, DC: Government Printing Office [GPO], March 1998), 63.
2. US Department of Defense, *Proliferation: Threat and Response* (Washington, DC: GPO, November 1997), 7-8, 25, 27.
3. US Secretary of Defense, *Annual Report to the President and Congress* (Washington, DC: GPO, April 1997), 214.
4. Prepared Statement by Secretary of Defense William S. Cohen, Before the House National Security Committee (Washington, DC: Department of Defense, 12 February 1997).
5. US Department of Defense, *Proliferation: Threat and Response* (Washington, DC: GPO, April 1996), 52.

6. US Department of Defense, *Report of the Quadrennial Defense Review* (Washington, DC, May 1997), 7-13.
7. *Report of the Defense Science Board/Defense Policy Board Task Force on Theater Missile Defense* (Washington, DC: Department of Defense, January 1996), 13.
8. US Department of Defense, *Report of the Quadrennial Defense Review* (Washington, DC, May 1997), 4-5, 8.
9. For a detailed description of US TMD programs, see Prepared Statement by LTG Lester L. Lyles, Director, Ballistic Missile Defense Organization, Before the House National Security Committee on Appropriations (Washington, DC: Department of Defense, 4 March 1998).

Peppino A. DeBiasi is the deputy director, Office of Strategy, Forces and Operations, Office of the Secretary of Defense, Washington, D.C. He received a B.A. from California State University, an M.A. from Claremont Graduate School and a Ph.D. from the University of Southern California. He held a variety of former positions, including foreign affairs specialist, Office of the Secretary of Defense; professional research staff member, ANSER Corporation, Washington, D.C.; faculty instructor, California State University, San Bernardino; and visiting research fellow, Hoover Institution on War, Revolution and Peace, Stanford, California.